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(71)Applicant : SHARP CORP

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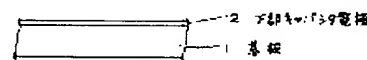
(72)Inventor : ISHIHARA KAZUYA
 ONISHI SHIGEO

(54) CRYSTALLIZATION OF FERROELECTRIC FILM

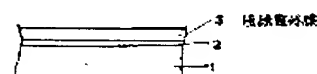
(57)Abstract:

PURPOSE: To prevent the composition ratio of Pb from reducing by forming a cap layer on the surface of a ferroelectric film which contains stoichiometric Pb.

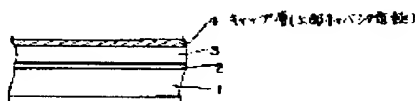
CONSTITUTION: Pt is accumulated on a board 1 as a bottom capacitor electrode 2. Then, ferroelectric material which contains Pb such as PZT is accumulated and a ferroelectric film 3 is formed. At this point, the ferroelectric film has (stoichiometric) amorphous pyrochlore structure which allows most chemically stable composition. Then, Pt, etc., is accumulated on the ferroelectric film 3 and a cap layer 4 is formed. Heat treatment is performed so as to change the crystal structure of the ferroelectric film 3 to be in the perovskite condition from the pyrochlore structure. Pb in the PZT film is evaporated as PBO during the heat treatment, the reduction of the composition ratio of Pb during the heat treatment is prevented by the cap layer 4 and the stoichiometric perovskite structured fine ferroelectric film is formed.



(a)



(b)



(c)

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